BC Molybdenum Deposits

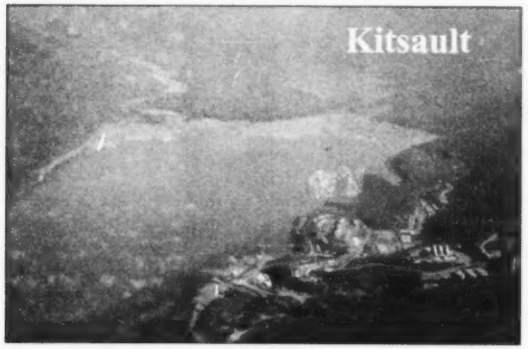
The British Columbia Ministry of Energy and Mines' MINFILE database lists **1350** molybdenum-bearing occurrences in the province; **430** of these list molybdenum as the primary commodity. Total molybdenum production (1915-2004) from nearly 100 deposits is 320 300 tonnes; and, total resources in 60 deposits are estimated at 1 900 000 tonnes. Some deposits with higher-grade cores have the potential to facilitate production to proceed relatively quickly [e.g. Davidson: 20.6 Mt @ 0.24% Mo + 0.041% WO, (@ 0.12% Mo cutoff); Max: 260 Kt @ 1.17% Mo (@ 0.6% Mo cutoff)].

Two molybdenum metallogenic episodes are recognized:

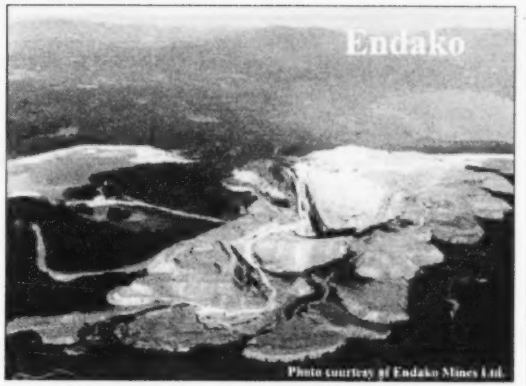
i) Early Cretaceous - Miocene: 140 Ma to 8 Ma
ii) Late Triassic - Middle Jurassic: 220 Ma to 195 Ma

The exploration and development of porphyry deposits during the 1960s and 1970s had a profound effect on the mining community in British Columbia. Nearly all the molybdenum-bearing deposits were explored for and inventories identified up until the early 1980s when the molybdenum price dropped from ~US$30 /lb to below US$3 /lb.

Currently molybdenum is mainly used as an alloy to strengthen iron and steel. Rapidly expanding markets in China and rising oil prices, which may precipitate future pipeline construction, have led to a significant price increase in Mo - once again fueling exploration and development in BC.



- Phelps Dodge Corp.
- Since 1967, produced ~13 600 t Mo (30 M lbs Mo)
- Operated 1967-1972 @ 5500 tpd; 1981-1982 @ 10 900 tpd
- Capital cost ~ $200 M (Sept. '78); ~500 employees with annual payroll ~$10 M (town built for 2000 people)
- 1982: Mo price plunged (US$35 to US$2 /lb)
- Current Resources: 104.3 Mt @ 0.112% Mo



- Thompson Creek Mining (60%), Sojitz Moly Res. (40%)
- Canada's top low-cost molybdenum producer, and one of the world's largest primary producers. Employment ~250
- Since 1965, produced ~191 000 t Mo (422 M lbs Mo)
- 2004 i) Production ~5000 t Mo (av. millfeed ~0.066% Mo), from daily mill throughput ~28 000 t
  ii) Reserves (end-2004) = 80.7 Mt @ 0.063% Mo
  iii) Mine life (before pit expansion) - 2011
  iv) Began major push back of south wall pit expansion

BC Molybdenum Deposit Types

- Porphyry Mo (low-F-type): BC Mineral Deposit Profile L05 [e.g. Endako (~145 Ma), Boss Mountain (~102 Ma), Kitsault (~51 Ma), Davidson (~67 Ma), Max (76 Ma?), Ruby Creek (~71 Ma), Ajax, Mac (~136 Ma), Storie, Logtung (~118 Ma), Lucky Ship, Carmi, Salal (~8 Ma)]
- Porphyry Cu ± Mo ± Au: BC Mineral Deposit Profile L04 [e.g. Brenda (210 Ma?), Island Copper (~167 Ma), Highland Valley Copper (~210 Ma), Schaft Creek (~220 Ma), Gibraltar (~217 Ma), Berg (~49 Ma), Catface (36 Ma?), Huckleberry (~82 Ma)]
- Occur in a variety of tectonic terranes
- Differentiated polyphase monzogranite suite
- Possible rhenium (e.g. Island Copper and Schaft Creek) and tungsten (e.g. Davidson and Logtung) credits

For More Information

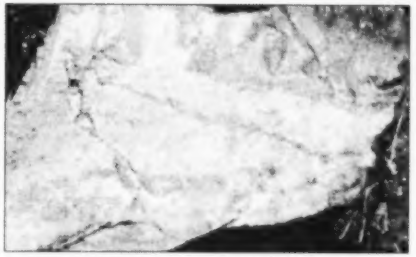
http://www.em.gov.bc.ca/Mining/Geology/

Telephone: (604) 660-2812

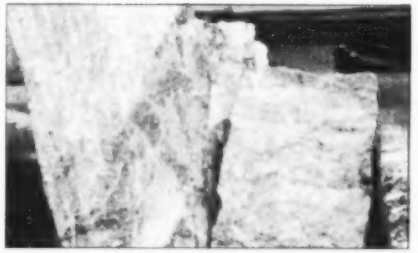
Canadian Institute of Mining, Metallurgy and Petroleum - Special Volumes 15 (1976) and 46 (1995)

Molybdenum, the British Columbia Perspective - BCMEM, Paper 1980-2

Molybdenum in British Columbia



Stockwork Moly (Endako)



Ribbon Moly (Davidson)

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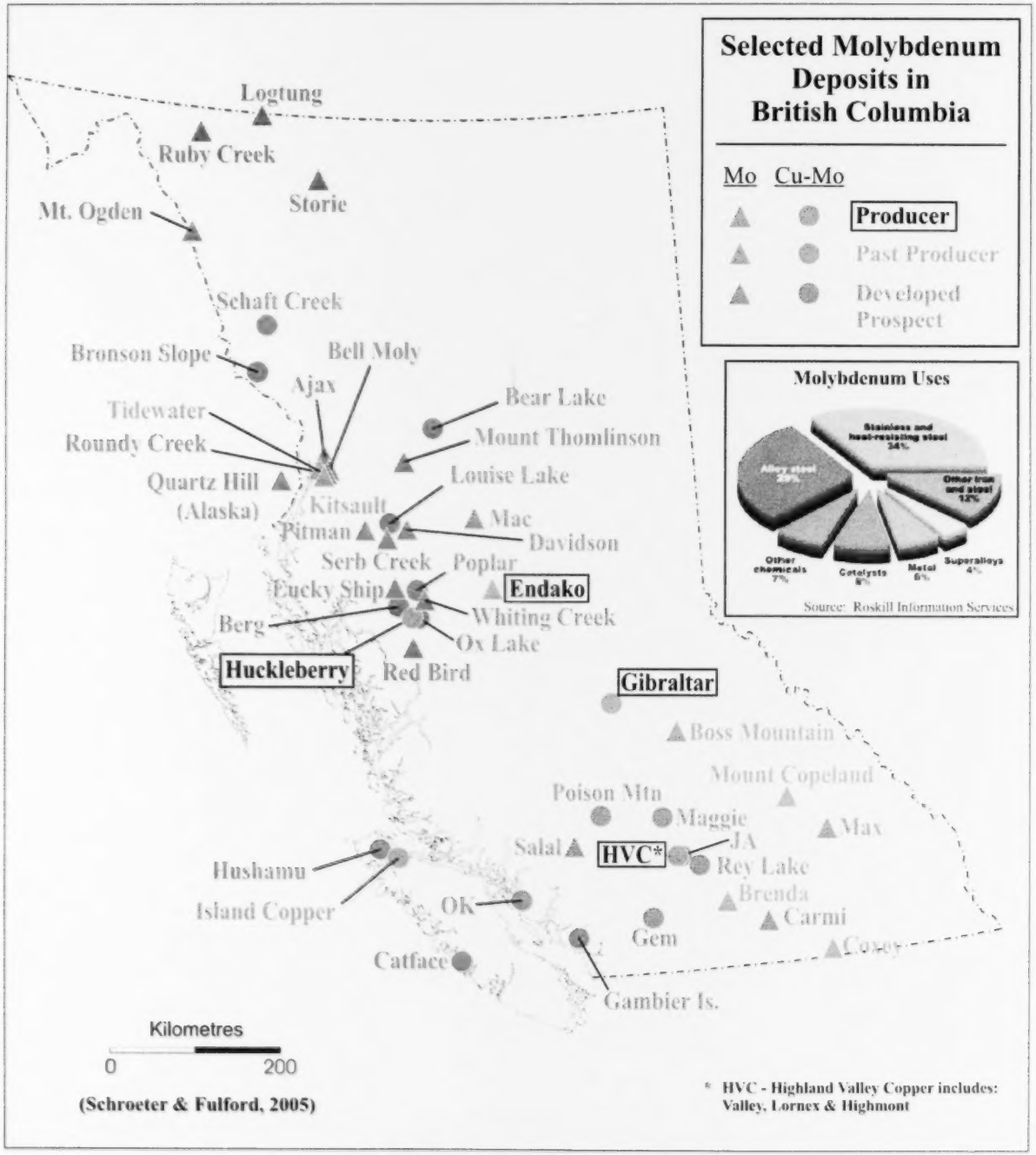
Mines and Minerals Division

BRITISH COLUMBIA

Information Circular 2005-3



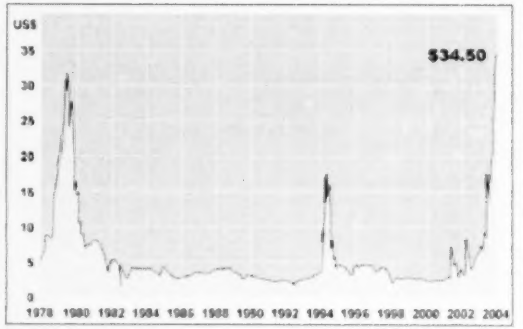
Selected Molybdenum Deposits in British Columbia

Mo	Cu-Mo	
▲	●	**Producer**
▲	●	Past Producer
▲	●	Developed Prospect

Molybdenum Uses

Source: Roskill Information Services

Molybdenum Price (US$/lb Mo)



Source: Roskill Information Services

Selected BC Molybdenum Producers (1915-2004)

Mine / Deposit Name	Years of Production (* = Producing)	Mo Produced (t) (10^3)	Other Products
Endako	1965-1998; 2002-2004*	191.3	-
Highland Valley Copper	1972-2004*	75.3	Cu-Ag-Au
Brenda	1070-1990	67.9	Cu-Ag-Au
Island Copper	1971-1995	32.0	Cu-Ag-Au-Re
Boss Mtn.	1965-1983	15.5	-
Kitsault	1967-1972; 1981-1982	13.6	-
Gibraltar	1972-1998; 2004*	9.1	Cu-Ag

Note: At US$20 per pound molybdenum, the total value of BC molybdenum production (320 300 tonnes) is approximately US$14 billion.

Selected BC Molybdenum Resources (2004)

Mine / Deposit Name	Resources (t) (10^6)	Resources (% Mo)	Contained Mo (t) (10^3)
*Davidson	75.3	0.177	133.2
Ajax	174.1	0.074	128.9
*Ruby Creek	205.1	0.062	127.2
Kitsault	104.3	0.112	116.8
Schaft Creek	402.7	0.022	88.6
Mac	99.9	0.072	71.9
Storie	100.5	0.070	70.4
*Max	42.9	0.120	51.5

Note: 60 deposits have been outlined with resources (all categories) of approximately 1.9 million tonnes of molybdenum, valued at over US$100 billion (at US$20 per pound).

* NI 43-101 compliant, measured and indicated resources